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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,565	01/02/2002	John Alan Miller	2207/12006	5828

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EXAMINER

KIM, KENNETH S

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/032,565

Applicant(s)

MILLER ET AL.

Examiner

Kenneth S KIM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
KENNETH S. KIM  
PRIMARY EXAMINER

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. Claims 1-9 and 16-28 have been elected for examination and claims 10-15 are withdrawn.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9 and 16-28 are rejected under 35 U.S.C. 102(b) as being anticipated by D'Sa et al, U.S. Patent No. 6,055,630.

D'Sa et al teaches the invention as claimed in claim 1 including a method of managing processor instructions, the method comprising:

(a) decoding a first instruction into a plurality of operations with a decoder (120; col. 5, line 60),

(b) passing a first copy of the operations from the decoder to a build engine associated with a trace cache (130; col. 6, line 12),

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(c) passing a second copy of the operations from the decoder directly to a back end allocation module (140; col. 5, line 64), the operations bypassing the build engine and the allocation module being in a decoder reading state, and

further teaches as in claims 2- 9,

(d) determining at the decoder (controlling part of the trace cache unit can be made part of the decoder; col. 6, line 22) whether a resume condition is present based on a second instruction (col. 6, line 28) and switching the allocation module from the decoder reading state to a trace cache reading state when the resume condition is present (col. 6, line 33) – claim 2.

(e) searching the trace cache for an instruction pointer that corresponds to the second instruction (pointers used for determining cache hit; col. 6, line 30) – claim 3,

(f) repeating the searching for a subset of every subsequent instruction decoded by the decoder (until cache miss; col. 6, line 36) – claims 4 and 5,

(g) selecting the subset based on a lookup to an abbreviated tag array (tag array is checked for hit or miss) or based on an instruction heuristic (col. 11, line 5) – claims 6 and 7,

(h) determining whether an immediately preceding instruction was a branch instruction (col. 11, line 8) – claim 8, and

(i) passing the second copy to a buffer of the allocation module (allocation module includes a buffer to receive instructions) – claim 9.

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The method claims 16-19 and the processor claims 20-28 including an application in an ASIC chip (can be in any type of IC) are equivalently rejected based on the same reason.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Krick et al taught a trace cache comprising tag array and data array.

Akkary taught a method of passing copies of instructions from decoder to trace buffer and allocation unit.

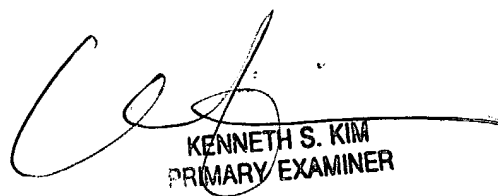
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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August 13, 2004



KENNETH S. KIM  
PRIMARY EXAMINER

Best Available Copy